REMARKS

The present Amendment is in response to the Examiner's Office Action mailed November 14, 2006. Claims 1-16, and 32 are cancelled, claims 17, 28-29, 31, and 33-35 are amended, and new claims 36-38 are added. Claims 17-31, and 33-38 are now pending in view of the above amendments.

Please note that the following remarks are not intended to be an exhaustive enumeration of the distinctions between any cited references and the claimed invention. Rather, the distinctions identified and discussed below are presented solely by way of example to illustrate some of the differences between the claimed invention and the cited references. The remarks set forth herein or the lack of remarks is not to be considered as an admission regarding assertions of the Examiner regarding the teachings of the art. Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

Rejection Under 35 U.S.C. § 103

The Office Action rejected claims 17-28, and 34-35 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,862,322 (*Ewen*) in view of U.S. Patent No. 4,574,249 (*Williams*). Claims 29-30 and 33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Ewen* in view of *Williams* and further in view of U.S. Patent No. 7,002,131 (*Lewis*). Claim 31 was rejected under 35 U.S.C. § 103(a) as being unpatentable over *Ewen* in view of U.S. Patent No. 5,498,865 (*Gaboury*).

Applicant respectfully disagrees. As discussed below, the cited references fail to establish a *prima facie* case of obviousness with regard to the pending claims. In particular, the references, either individually or in combination, fail to teach or suggest each and every element of the rejected claims.

Claim 17 has been amended as follows: "said amplifier including at least one control terminal that receives a control signal for setting said gain of said amplifier between at least two gain values in a continuously variable manner, wherein at least one gain value between the at least two gain values is optimized for maximum

sensitivity".

The ability to set the gain between at least two gain values in a continuously variable manner is not taught or suggested by the cited art. By way of example, the specification indicates that one way to set the gain in a continuously variable manner is by using a transistor 230, which has a resistance that can vary according to a gate voltage. This enables the impedance to continuously change between at least two gain values.

In contrast, *Ewen* teaches a field effect transistor (FET) and a capacitor that are disposed across each input to the TIA. *See* col. 5, lls. 22-24. *Ewen* further teaches that the FET is an open circuit when off (col. 5, lls. 38-39) and is a short circuit when on (col. 5, lls. 38-39). As a result, the impedance taught by *Ewen* has two different states: an impedance with the FETs are ON and a different impedance when the FETs are OFF. As a result, *Ewen* teaches the ability to control the bandwidth of the transimpedance amplifier by switching the FETs to either an ON of OFF state and no teaching or suggestion is present of a continuously variable impedance that can produce a gain between at least two gain values.

The switchable impedance taught by *Ewen* has two states that correspond to when the FETs are ON or OFF. However, *Ewen's* switchable impedance with two or more states (representing two or more different impedances), fails to teach or suggest setting a gain between at least two gain values in a continuously variable manner as required by claim 17.

Claim 31, which requires that the impedance of the impedance network include at least one variable impedance such that the impedance can be variably set, is similarly not taught or suggested by the cited art. More particularly, FETs that are switched between an OFF state and an ON state do not teach or suggest at least one variable impedance as required by claim 31.

Claim 33, in addition to the reasons set forth above, further requires a duty cycle control that prevents pulse distortions. The cited art fails to teach or suggest a duty cycle control that prevents pulse distortions as required by claim 33.

The Office Action suggests that *Williams* teaches a MOS-FET transistor or a bipolar transistor, that *Lewis* teaches a TO-46 package, a TSSOPIO package, or a

VQFN20 package, and that *Gaboury* teaches that optical receiver circuits are governed by the equation V = K/B. Applicant does not concede these points as they are moot for at least the reasons stated above.

Further, the Office Action has not established that any of *Williams, Lewis,* and *Gaboury* teach a control signal for setting the gain of the amplifier between at least two gain values in a continuously variable manner as set forth and required in the pending claims. For at least these reasons, the cited art fails to teach or suggest each and every limitation of claims 17, 31, and 33. Applicant respectfully submits that these claims are therefore in condition for allowance. The dependent claims overcome the cited art for at least the same reasons.

Conclusion

In view of the foregoing, Applicants believe the claims as amended and presented herein are in allowable form. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, or which may be overcome by an Examiner's Amendment, the Examiner is requested to contact the undersigned attorney.

Dated this 14th day of March, 2007.

Respectfully submitted,

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